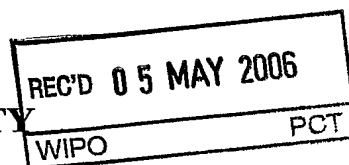


PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/BR 2005/000012	International filing date (day/month/year) 28 January 2005 (28.01.2005)	Priority Date (day/month/year) 30 January 2004 (30.01.2004)
International Patent Classification (IPC) or national classification and IPC IPC ⁸ : E02B 9/08 (2006.01); F03B 13/12 (2006.01)		
Applicant COPPE/UFRJ - Coordenacao dos Programas de Pós Graduacao de Engenharia da Universidade		

- This international preliminary examination report has been prepared by this International Preliminary Examination Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 5 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of _____ sheets.

- This report contains indications relating to the following items:

- ☒ Basis of the opinion
- ☐ Priority
- ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Lack of unity of invention
- ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Certain documents cited
- ☐ Certain defects in the international application
- ☐ Certain observations on the international application

Date of submission of the demand 22 August 2005 (22.08.2005)	Date of completion of this report 20 April 2006 (20.04.2006)
Name and mailing address of the IPEA/AT Austrian Patent Office Dresdner Straße 87 A-1200 Vienna Facsimile No. 1/53424/200	Authorized officer SCHNEEMANN J. Telephone No. 1/53424/353

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/BR 2005/000012

I. Basis of the report

1. With regard to the **elements** of the international application:*

☒ the international application as originally filed

☐ the description:

pages _____, as originally filed

pages _____, filed with the demand

pages _____, filed with the letter of _____.

☐ the claims:

pages _____, as originally filed

pages _____, as amended (together with any statement) under Article 19

pages _____, filed with the demand

pages _____, filed with the letter of _____.

☐ the drawings:

pages _____, as originally filed

pages _____, filed with the demand

pages _____, filed with the letter of _____.

☐ the sequence listing part of the description:

pages _____, as originally filed

pages _____, filed with the demand

pages _____, filed with the letter of _____.

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

☐ the language of publication of the international application (under Rule 48.3(b)).

☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in printed form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____.

☐ the claims, Nos. _____.

☐ the drawings, sheets/fig _____.

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as „originally filed“ and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/BR 2005/000012

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 3.

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for said claims Nos. 3.

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the standard.

☐ the computer readable form has not been furnished or does not comply with the standard.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/BR 2005/000012

IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees the applicant has:

- ☐ restricted the claims.
- ☐ paid additional fees.
- ☐ paid additional fees under protest.
- ☒ neither restricted nor paid additional fees.

2. ☐ This Authority found that the requirements of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirements of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

- ☐ complied with.
- ☒ not complied with for the following reasons:

Claims 1, 2 and 4 define a wave energy plant for electricity generation. In claim 3 however an outflow regulation valve is drafted comprising an adjustment needle, an adjustment ring, a valve setting main structure and a mechanical set for outflow finde adjustment.

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this opinion:

- ☐ all parts.
- ☒ the parts relating to claims Nos. 1, 2, 4.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/BR 2005/000012

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement	Novelty (N)	Claims 1, 2, 4	YES
		Claims ----	NO
	Inventive step (IS)	Claims 1, 2, 4	YES
		Claims ----	NO
	Industrial applicability (IA)	Claims 1, 2, 4	YES
		Claims ----	NO

Citations and explanations (Rule 70.7)

The wave energy system shown in the US 4 931 662 document includes a long rigid beam pivotally linked to a fixed platform. One end of the beam is supported by a float, the other end thereof is connected to a fluid pump, which, in response to the effect of the wave motion on the float, produces fluid under pressure for driving an electrical generator.

A similar power generating plant utilizing the motion of water waves is disclosed in the cited US 3 970 415, including a float mounted to the end of a pivot able linked arm, the arm actuating a fluid pump which forces water through a line to drive a turbine generator.

As a (hyperbaric) pressure chamber and the fact of storing both nitrogen and water in this pressure chamber is not described, these documents do not anticipate the features defined in claim 1 or 4 and claim 2 related with claim 1.

In the US 4 076 464 document an apparatus for the conversion of surface (tidal) motion of the sea (waves) into useful energy is disclosed, comprising a pair of floating bodies linked by an arm, the arm operating fluid pumps located in the floats. The pumps deliver water under pressure to a pressure chamber.

The arm according to this US document is not linked with his one end to a fixed structure, and also not mentioned in this document is the storing of nitrogen gas and water in the pressure chamber.

Thus, the subject matter drafted in claims 1, 2, 4 is regarded to be new and to involve an inventive step.

Moreover, industrial applicability is given.